

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**



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Bart MAXIMUS et al.

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For: **METHOD AND DEVICE FOR PERFORMING STEREOSCOPIC IMAGE DISPLAY BASED ON COLOR SELECTIVE FILTERS**

**SECOND PRELIMINARY AMENDMENT BEFORE EXAMINATION**

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Sir:

**INTRODUCTORY COMMENTS**

It is desired to further amend the claims of this application before examination on the merits. The particulars of the proposed amendments are presented below.

**AMENDMENTS**

**AMENDMENTS TO THE CLAIMS**

The claims are amended as shown in the following pages under the heading "LIST OF CURRENT CLAIMS". This listing of claims supersedes all prior claim listings presented in this application and reflects all currently proposed amendments. Any cancellation of claims is made without prejudice or disclaimer and all rights are reserved with regard to the originally claimed subject matter.

**LIST OF CURRENT CLAIMS**

1-40 (Canceled).

41. (Previously Presented) A stereoscopic projection system comprising a projection device with at least one filter which filters a parameter of the light in a color selective manner, said filtering in a color selective manner being for obtaining the stereoscopic effect of the stereoscopic images for a left eye and a right eye, respectively, the at least one filter having a spectral characteristic for transmitting light in a first wavelength band or set of wavelength bands and for reflecting or absorbing light in a second wavelength band or set of wavelength bands, wherein the projection device comprises a means for fast synchronized switching between light in different wavelength bands or sets of wavelength bands.

42. (Previously Presented) A stereoscopic projection system according to claim 41, comprising a projection device with at least a first filter which filters a parameter of the light in a color selective manner with a first spectral characteristic and a second filter which filters a parameter of the light in a color selective manner with a second spectral characteristic, wherein the projection device comprises a means for fast synchronized switching between the at least first and second filters.

43. (Previously Presented) A stereoscopic projection system according to claim 41, the projection device projecting images for a left eye and images for a right eye, the stereoscopic projection system furthermore comprising a passive obscuration device for discriminating between the images for the left eye and the images for the right eye.

44. (Previously Presented) A stereoscopic projection system according to claim 42, wherein the means for fast synchronized switching comprises a rotating wheel with at least one set of the first and second filters.

45. (Previously Presented) A stereoscopic projection system according to claim 42, wherein the means for fast synchronized switching comprises a sliding filter with at

least one set of the first and second filters.

46. (Previously Presented) A stereoscopic projection system according to claim 42, wherein the means for fast synchronized switching comprises a solid state filter that can switch from a first characteristic to a second characteristic with a switching time below 5 ms.

47. (Previously Presented) A stereoscopic projection system according to claim 42, wherein the means for fast synchronized switching comprises a stack of switchable cholesteric filters.

48. (Previously Presented) A stereoscopic projection system according to claim 41, wherein the at least one filter is a first filter for splitting light in a first light path and a second light path, the means for fast synchronized switching comprising a first shutter in the first light path and a second shutter in the second light path, the operation of the shutters being linked so that the first shutter closes when the second shutter opens and vice versa.

49. (Previously Presented) A stereoscopic projection system according to claim 48, furthermore comprising a further filter with a characteristic substantially similar to the spectral characteristic of the first filter, the further filter being for combining light from the first and second lightpaths onto a combined lightpath.

50. (Previously Presented) A stereoscopic projection system according to claim 41, the at least one filter having a spectral characteristic for transmitting light in a first set of wavelength bands and for reflecting or absorbing light in a second set of wavelength bands, wherein the at least one filter has components in three primary color regions.

51. (Previously Presented) A stereoscopic projection system comprising at least one set of a first and a second stereo projection devices for projecting images onto a common display unit, wherein each of the first and second stereo projection devices are provided with a combination of a first and a second filter mechanism, the first

filter mechanism being a filter which filters a parameter of the light in a color selective manner, said filtering in a color selective manner of the first and second stereo projection devices being for obtaining the stereoscopic effect of the stereoscopic images for a left eye and a right eye.

52. (Previously Presented) A stereoscopic projection system according to claim 51, wherein the filter which filters a parameter of the light in a color selective manner comprises a color selective filter.

53. (Previously Presented) A stereoscopic projection system according to claim 52, wherein the color selective filter is an absorption filter.

54. (Previously Presented) A stereoscopic projection system according to claim 51, wherein the filter which filters a parameter of the light in a color selective manner comprises a color selective retarder.

55. (Previously Presented) A stereoscopic projection system according to claim 51, wherein the second filter mechanism comprises a polarization filter and the polarization filters of the first and the second stereo projection devices have a substantially orthogonal polarization state.

56. (Previously Presented) A stereoscopic projection system according to claim 51, wherein the second filter mechanism comprises a shutter mechanism.

57. (Previously Presented) A stereoscopic projection system according to claim 51, wherein the filters which filter a parameter of the light in a color selective manner of the first and the second passive stereo projection device have overlapping regions in their spectral characteristic.

58. (Previously Presented) A stereoscopic projection system according to claim 51, furthermore comprising passive obscuration devices.

59. (Previously Presented) A stereoscopic projection system according to claim 58,

wherein the passive obscuration devices comprise a pair of glasses with a first glass with a first filter mechanism with the same characteristics as the first filter mechanism of the first projection device and with a second filter mechanism with substantially the same characteristics as the second filter mechanism of the first projection device, and a second glass with a first filter mechanism with the same characteristics as the first filter mechanism of the second projection device and with a second filter mechanism with substantially the same characteristics as the second filter mechanism of the second projection device.

60. (Previously Presented) A stereoscopic projection system according to claim 51, the first projection device projecting images for the left eye and the second projection device projecting images for a right eye, the projection system furthermore comprising an active obscuration device for discriminating between the images for the left eye and the images for the right eye.

61. (Previously Presented) A stereoscopic projection system according to claim 60, wherein the first projection device alternately projects a first set of images for the left eyes of a first group of observers and a second set of images for the left eyes of a second group of observers, and wherein the second projection device alternately projects a first set of images for the right eyes of the first group of observers and a second set of images for the right eyes of the second group of observers, the active obscuration devices comprising a shutter which is open when the first set of images is displayed and closed when the second set of images is displayed.

62. (Previously Presented) A stereoscopic projection system according to claim 41, furthermore comprising means for electronically compensating for color differences between a plurality of signals originating from the projection device or projection devices.

63. (Previously Presented) A stereoscopic projection system according to claim 51, furthermore comprising means for electronically compensating for color differences between a plurality of signals originating from the projection device or projection devices.

64. (Previously Presented) A stereoscopic projection system according to claim 62, wherein the means for electronically compensating for color differences between a plurality of signals originating from the projection device comprises means for switching on a left image – right image basis.

65. (Previously Presented) A stereoscopic projection system according to claim 41, furthermore comprising means for reducing cross-talk in the most photopically contributing color channel of the projection device.

66. (Previously Presented) A stereoscopic projection system according to claim 51, furthermore comprising means for reducing cross-talk in the most photopically contributing color channel of the projection device.

67. (Previously Presented) A stereoscopic projection system according to claim 65, wherein the means for reducing cross-talk comprises a filter which filters a parameter of the light in a color selective manner in the most photopically contributing channel of the projection device.

68. (Previously Presented) A stereoscopic projection system according to claim 66, wherein the means for reducing cross-talk comprises a filter which filters a parameter of the light in a color selective manner in the most photopically contributing channel of the projection device.

69. (Previously Presented) A stereoscopic projection system according to claim 65, wherein the means for reducing cross-talk comprises a first filter which filters a parameter of the light in a color selective manner in the most photopically contributing color channel of the first projection device, and a second filter which filters a parameter of the light in a color selective manner in the most photopically contributing color channel of the second projection device, the first and the second filters showing no overlap in the most photopically contributing color channel.

70. (Previously Presented) A stereoscopic projection system according to claim 66,

wherein the means for reducing cross-talk comprises a first filter which filters a parameter of the light in a color selective manner in the most photopically contributing color channel of the first projection device, and a second filter which filters a parameter of the light in a color selective manner in the most photopically contributing color channel of the second projection device, the first and the second filters showing no overlap in the most photopically contributing color channel.

71. (Previously Presented) A stereoscopic projection system according to claim 41, wherein the projection device is equipped with a light source with a substantially flat spectral distribution.

72. (Previously Presented) A stereoscopic projection system according to claim 51, wherein at least one of said projection devices is equipped with a light source with a substantially flat spectral distribution.

73. (Previously Presented) A stereoscopic projection system according to claim 71, wherein the projection device is furthermore equipped with a set of filters such that the combination of light source and set of filters of the projection device is such that the light which is projected by the at least two projection devices onto the common screen can be discriminated by means of an adjusted obscuration device.

74. (Previously Presented) A stereoscopic projection system according to claim 72, wherein said at least one of said projection devices is furthermore equipped with a set of filters such that the combination of light source and set of filters of the projection device is such that the light which is projected by the at least two projection devices onto the common screen can be discriminated by means of an adjusted obscuration device.

75. (Previously Presented) A stereoscopic projection system according to claim 73, wherein the light source and the set of filters of each of the at least two projection devices are such that a multiplication of the spectral distributions of the light projected by the at least two projection devices onto the common screen is substantially close to zero.

76. (Previously Presented) A stereoscopic projection system according to claim 74, wherein the light source and the set of filters of each of the at least two projection devices are such that a multiplication of the spectral distributions of the light projected by the at least two projection devices onto the common screen is substantially close to zero.

77. (Previously Presented) A stereoscopic projection system according to claim 73, wherein the set of filters are stereo filters.

78. (Previously Presented) A stereoscopic projection system according to claim 74, wherein the set of filters are stereo filters.

79. (Previously Presented) A stereoscopic projection system according to claim 77, wherein the set of filters are color filters.

80. (Previously Presented) A stereoscopic projection system according to claim 78, wherein the set of filters are color filters.

81. (Previously Presented) A stereoscopic projection system according to claim 71, furthermore comprising means for electronically compensating for color differences between light projected from each of the at least two projection devices.

82. (Previously Presented) A stereoscopic projection system according to claim 72, furthermore comprising means for electronically compensating for color differences between light projected from each of the at least two projection devices.

83. (Previously Presented) A stereoscopic projection system according to claim 41, comprising a plurality of stereo projection devices for multiple image stereo applications.

84. (Previously Presented) A stereoscopic projection system according to claim 51, comprising a plurality of stereo projection devices for multiple image stereo

applications.

85. (Previously Presented) A stereoscopic projection system according to claim 41, wherein said filtering in a color selective manner reaches a common color gamut for the images for the left and right eye.

86. (Previously Presented) A stereoscopic projection system according to claim 51, wherein said filtering in a color selective manner reaches a common color gamut for the images for the left and right eye.

87. (New) A stereoscopic projection system comprising a projection device with at least one filter which filters a parameter of the light in a color selective manner, said filtering in a color selective manner being for obtaining the stereoscopic effect of the stereoscopic images for a left eye and a right eye, respectively, the at least one filter having a spectral characteristic for transmitting light in a first wavelength band or set of wavelength bands and for reflecting or absorbing light in a second wavelength band or set of wavelength bands, wherein the projection device comprises a means for fast synchronized switching between light in different wavelength bands or sets of wavelength bands, wherein the system furthermore comprises means for electronically compensating for color differences between a plurality of signals originating from the projection device or projection devices.

88. (New) A stereoscopic projection system according to claim 87, wherein the means for electronically compensating for color differences between a plurality of signals originating from the projection device comprises means for switching on a left image – right image basis.

89. (New) A stereoscopic projection system according to claim 87, wherein the system is adapted for converting said plurality of signals to correspond with a single color gamut.

90. (New) A stereoscopic projection system according to claim 88, wherein the system is adapted for converting said plurality of signals to correspond with a single

color gamut.

91. (New) A stereoscopic projection system comprising at least one set of a first and a second stereo projection devices for projecting images onto a common display unit, wherein each of the first and second stereo projection devices are provided with a combination of a first and a second filter mechanism, the first filter mechanism being a filter which filters a parameter of the light in a color selective manner, said filtering in a color selective manner of the first and second stereo projection devices being for obtaining the stereoscopic effect of the stereoscopic images for a left eye and a right eye, wherein the system furthermore comprises means for electronically compensating for color differences between a plurality of signals originating from the projection device or projection devices.

92. (New) A stereoscopic projection system according to claim 91, wherein the system is adapted for converting said plurality of signals to correspond with a single color gamut.